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L11: Entry 1 of 2 File: EPAB May 2, 1996

PUB-NO: WO009612808A1
DOCUMENT-IDENTIFIER: WO 9612808 A1
TITLE: NUCLEIC ACID PREPARATION FOR IMMUNIZATION AND METHOD FOR IMMUNIZATION USING THE SAME

PUBN-DATE: May 2, 1996

INVENTOR-INFORMATION:

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INT-CL (IPC): C12 N 15/45; C07 K 14/125; A61 K 39/17; A61 K 31/70; A61 K 39/00
EUR-CL (EPC): C07K014/125; C12N015/87

ABSTRACT:

CHG DATE=19990617 STATUS=O>The present invention relates to a nucleic acid preparation for immunization of an animal, comprising a linearized DNA which comprises a promoter for expression of a gene functioning in an animal cell and a gene coding for an immunizing antigen derived from a pathogen linked to the downstream of said promoter; and a method for immunizing an animal utilizing said nucleic acid preparation. Specifically, this invention relates to the immunization of poultry with a DNA coding for Newcastle disease virus (NDV)-F protein under the control of an improved chicken beta-actin promoter.

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     (FILE 'HOME' ENTERED AT 10:26:37 ON 04 FEB 2003)

     FILE 'BIOSIS' ENTERED AT 10:26:44 ON 04 FEB 2003
L1           166 S HVT AND MDV
L2             4 S UL45 AND UL46
L3             0 S L1 AND L2

     FILE 'CAPLUS' ENTERED AT 10:28:41 ON 04 FEB 2003
L4            11 S L2

     FILE 'MEDLINE' ENTERED AT 10:30:19 ON 04 FEB 2003
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L7             1 S E4
L8             0 S AVAIN AND L6
L9             0 S HVT AND L6
L10            0 S MDV AND L6
L11            0 S IBDV AND L6
L12            0 S IBDV AND UL45
L13            0 S IBDV AND UL46
                 E MOORE K M/AU
                 E MOORE KRISTI/AU
                 E MOORE K M/AU
L14           16 S E3
L15            3 S AVIAN AND L14
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1: J Gen Virol 1991 Aug;72 (Pt 8):1835-43 Related Articles, Links

Sequence analysis and expression of the host-protective immunogen VP2 of a variant strain of infectious bursal disease virus which can circumvent vaccination with standard type I strains.

Heine HG, Haritou M, Failla P, Fahey K, Azad A.

CSIRO, Division of Biomolecular Engineering, Parkville, Victoria, Australia.

The host-protective antigen VP2 of a variant strain of infectious bursal disease virus (IBDV) which emerged from a vaccinated flock and is able to circumvent vaccination with classic type I strains of IBDV, was cloned and its nucleotide sequence determined. Virus-neutralizing monoclonal antibodies (MAbs) raised against the Australian 002-73 strain of IBDV did not react or reacted only very weakly with the expression product of the variant virus. The deduced amino acid sequence of VP2 from the variant strain differed in 17 residues from that of the Australian strain and in eight positions from a consensus sequence compiled from six type I strains of IBDV. All the amino acid changes mapped within the central, variable region of VP2, which forms the conformational epitope recognized by virus-neutralizing MAbs. Changes in the two hydrophilic regions at either end of this fragment were unique to the variant virus and were crucial for its ability to escape the virus-neutralizing antibodies induced by vaccination with a standard type I vaccine.

PMID: 1651980 [PubMed - indexed for MEDLINE]

WEST Search History

DATE: Tuesday, February 04, 2003

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DB=USPT; PLUR=YES; OP=ADJ			
L21	Cochran and UL46	0	L21
L20	Cochran and UL45	7	L20
L19	Cochran and Ul45	7	L19
L18	"between UL45 and UL46"	0	L18
L17	between UL45 and UL46	0	L17
L16	HVT and UL46	2	L16
L15	HVT and UL45.clm.	0	L15
L14	HVT and UL45	10	L14
L13	chicken beta-actin promoter and herpesvirus	8	L13
L12	chicken beta-actin promoter and l1	0	L12
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DB=JPAB; PLUR=YES; OP=ADJ			
L10	chicken beta-actin promoter	0	L10
DB=DWPI; PLUR=YES; OP=ADJ			
L9	chicken beta-actin promoter	3	L9
DB=USPT; PLUR=YES; OP=ADJ			
L8	chicken beta-actin promoter.clm.	5	L8
L7	chicken beta-actin promoter	58	L7
L6	L1 and VP2.clm.	7	L6
L5	L1 and VP2	13	L5
L4	UL45 and UL46.clm.	0	L4
L3	UL45 and UL46	9	L3
L2	UL45	34	L2
L1	avian herpesvirus	55	L1

END OF SEARCH HISTORY

1: Nucleic Acids Res 1983 Dec 10;11(23):8287-301 Related Articles, Links

The nucleotide sequence of the chick cytoplasmic beta-actin gene.

Kost TA, Theodorakis N, Hughes SH.

The nucleotide sequence of the chick beta-actin gene was determined. The gene contains 5 introns; 4 interrupt the translated region at codons 41/42, 120/122, 267, 327/328 and a large intron occurs in the 5' untranslated region. The gene has a 97 nucleotide 5'-untranslated region and a 594 nucleotide 3'-untranslated region. A slight heterogeneity in the position of the poly A addition site exists; polyadenylation can occur at either of two positions two nucleotides apart. The gene codes for an mRNA of 1814 or 1816 nucleotides, excluding the poly(A) tail. In contrast to the chick skeletal muscle actin gene the beta-actin gene lacks the Cys codon between the initiator ATG and the codon for the N-terminal amino acid of the mature protein. In the 5' flanking DNA, 15 nucleotides downstream from the CCAAT sequence, is a tract of 25 nucleotides that is highly homologous to the sequence found in the same region of the rat beta-actin gene.

PMID: 6324080 [PubMed - indexed for MEDLINE]

1: Virus Res 1994 Jun;32(3):313-28 Related Articles, Links

Modification of infectious bursal disease virus antigen VP2 for cell surface location fails to enhance immunogenicity.

Heine HG, Hyatt AD, Boyle DB.

CSIRO, Australian Animal Health Laboratory, Geelong, Victoria.

The host protective antigen gene VP2 of infectious bursal disease virus (IBDV) was genetically modified and expressed by recombinant fowlpox viruses (rFPV). To achieve cell surface localization, VP2 was expressed as a hybrid protein with signal sequence and membrane anchors of influenza virus hemagglutinin or neuraminidase. Native VP2 was expressed as VP2 alone or as self-processing VP2-VP4-VP3 polyprotein for coexpression of IBDV structural proteins. VP2 hybrid protein containing the carboxy-terminal membrane anchor sequence of influenza virus hemagglutinin was located on the cell surface and was N-glycosylated. The expression of VP2 fused to the N-terminal signal/anchor sequence of influenza virus neuraminidase led to cell lysis and the VP2 protein remained mainly unglycosylated. Cell surface localization of VP2 reduced immunogenicity (antibody induction) and abolished protection in poultry in comparison with the native VP2 expressed by FPV as VP2 alone or as the self-processing VP2-VP4-VP3. Vaccination of poultry with rFPV expressing native VP2 protein alone provided better protection from IBDV infection than VP2 derived from the VP2-VP4-VP3 polyprotein.

PMID: 8079513 [PubMed - indexed for MEDLINE]

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1: Arch Virol 1996;141(8):1493-507 Related Articles, Links

Epitope mapping of capsid proteins VP2 and VP3 of infectious bursal disease virus.

Yamaguchi T, Iwata K, Kobayashi M, Ogawa M, Fukushi H, Hirai K.

Department of Veterinary Microbiology, Faculty of Agriculture, Gifu University, Japan.

Twenty hybridoma cell lines producing monoclonal antibodies (MAbs) against serotype 1 infectious bursal disease virus (IBDV) of GBF-1 and the attenuated GBF-1E strains were produced. The MAbs recognized major structural proteins VP2 and VP3. MAb recognition sites were mapped using recombinant Escherichia coli clones which expressed N-terminal and (or) C-terminal truncated virus antigens, and competitive-binding assays. At least 3 conformation-dependent serotype 1 specific virus neutralizing antigenic sites and a linear antigenic site were defined on VP2 and VP3, respectively. Two of the conformational virus neutralizing antigenic sites were localized in the central area of VP2 consisting of 156 amino acid residues, and the linear epitope was localized in C-terminal 105 amino acid residues of VP3. Another conformational virus neutralizing antigenic site recognized with the virus neutralizing MAb GK-5 was not defined because GK-5 did not react with virus antigen expressed in recombinant E. coli. The conformational antigenic site was supposed to be composed of tertiary or quaternary protein structure, which may not be constructed in recombinant E. coli.

PMID: 8856029 [PubMed - indexed for MEDLINE]